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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,395	04/19/2004	Michael B. Korzenski	020732-214.539 CIP (7496)	3117
24239	7590	11/29/2006	EXAMINER	
MOORE & VAN ALLEN PLLC P.O. BOX 13706 Research Triangle Park, NC 27709			WEBB, GREGORY E	
			ART UNIT	PAPER NUMBER

1751

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/827,395

**Applicant(s)**

KORZENSKI ET AL.

**Examiner**

Gregory E. Webb

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 12-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>0906</u> . | 6) <input type="checkbox"/> Other: _____  |

*M*  
*1/2/06*

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 6/1/06 have been fully considered but they are not persuasive.
2. The applicant argues that the compositional claim 1 and the method claim 12 contain the same limitations and would not require additional searching or examination. The examiner however views the two independent claims as distinct. In claim 1 very little weight will be given to the intended use of the composition. For example should the examiner find a paint removal system containing the three chemical components of claim 1 such a reference would be applied as all material limitations of the composition are met. Claim 12 however would require the examiner to consider and apply full weight to features beyond just the composition. Claim 12 would require the examiner to not only find the composition but also the ion-implanted photoresist and also the method of using the composition to remove said photoresist.
3. As such the examiner considers claim 12 to have additional features which would require additional searching. Thus the restriction is considered proper.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-7, and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Fulton et al (US 6,756,084).
6. Fulton teaches methods for depositing particles on a substrate using supercritical fluids. Although Fulton teaches a depositing method and the instant invention is intended for removing photoresist, as stated above, such intended uses are not given full weight when defining a composition claim. Therefore, although Fulton is depositing compounds, such compositions would inherently function in removing photoresists should each and every material limitation be met.
7. Fulton teaches various supercritical solvents including carbon dioxide (see col. 6, lines 12-14). Fulton teaches the use of various alcohols including isopropanol (see col. 6, line 18) and carboxylic acids which qualify as reducing agents including formic acid (see col. 6, line 21).

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8. Claims 1-7, and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Fischer et al (US 5,043,280).

9. Fischer teaches a method of embedding a substance in a supercritical carrier. Fischer teaches various suitable gases including carbon dioxide supercritical gas. Concerning the reducing agents, specifically the hydrogen and the formic acid, Fischer teaches the inclusion of these two compounds in the supercritical gas (see col. 4, line 2 and line 17). Fischer further teaches the inclusion of isopropyl alcohol (see col. 4, line 7).

10. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Cotte (US6398875).

Concerning the supercritical fluid, the photoresist and the most preferred supercritical gas, Cotte teaches the following:

To ensure effective removal of the water-containing film from the **semiconductor wafer**, the **semiconductor wafer** is exposed to the liquid or **supercritical carbon dioxide**-containing composition, under the above conditions, for about 2 minutes to about 30 minutes. More preferably, the time period of exposure of the **wafer** 16 to the **carbon dioxide** liquid or **supercritical fluid** composition, under the above-identified conditions, is about 2 minutes. (*emphasis added*)

Concerning the co-solvent and the weight percentage of co-solvent, Cotte teaches the following:

A **co-solvent**, if present in the composition, is preferably included in a concentration in the range of **between about 1% and about 25%** by volume, based on the total volume of the co-solvent and the liquid or supercritical carbon dioxide. More preferably, the concentration of the co-solvent is in the range of between about 5% and about 10% by volume, based on the total volume of the co-solvent and liquid or supercritical CO.sub.2. Most preferably, the co-solvent, if included, is present in a concentration of between about 6% and about 8% by volume, based on the total volume of the solvent and the liquid or supercritical CO.sub.2. (*emphasis added; further noting that isopropyl alcohol is a suitable co-solvent; ;see col. 3, lines 50-54*)

Concerning the claimed reducing agents and the formic acid, Cotte teaches the following:

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In the preferred embodiment wherein the solvent is a diacid, oxalic acid is preferred. In the preferred embodiment wherein a carboxylic acid is utilized, **formic acid, acetic acid** or perfluoroacetic acid is particularly preferred. *(emphasis added; further noting that Cotte teaches the use of 1-5% of this acid; see col. 4, lines 3-17)*

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory E. Webb whose telephone number is 571-272-1325.

The examiner can normally be reached on 9:00-17:30 (m-f).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglass McGinty can be reached on (571)272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to be 'G. Webb', with a date '11/21/06' written below it.

Gregory E. Webb  
Primary Examiner  
Art Unit 1751

gew